

- 2 -

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-36 (canceled)

Claim 37. (currently amended) A self-supported fibrin material comprising an elongated structure ~~having at least a portion stretched in at least one longitudinal stretching direction,~~ wherein the self-supported fibrin material is stretched along a longitudinal axis.

B1
Claim 38. (currently amended) The self-supported fibrin material of claim 37, wherein the structure is made of a material selected from the group consisting of fibrin, fibrinogen, chondroitin-4, sulfate, dermatan sulfate, keratan sulfate, hyaluronic acid, chitosan, chitin, alginate, laminin, elastin, fibronectin, collagen, organic polymer, peptide, derivatives thereof, and mixtures thereof.

Claim 39. (currently amended) The self-supported fibrin material of claim 37, wherein the stretched portion of the structure is porous.

Claim 40. (currently amended) The self-supported fibrin material of claim 37, wherein the material of the stretched portion of the structure has at least two densities which are different from each other.

Claim 41. (currently amended) The self-supported fibrin material of claim 40, wherein the first density is at least 1.5 times greater than the second density.

Claim 42. (currently amended) The self-supported fibrin material of claim 40, wherein the first density is at least 2 times greater than the second density.

Claim 43. (currently amended) The self-supported fibrin material of claim 40, wherein the first density is at least 5 times greater than the second density.

- 3 -

Claim 44. (currently amended) The self-supported fibrin material of claim 37, wherein the elongated structure has a shape selected from the group consisting of thread, tube, hollow profile, film, fleece, sponge and membrane.

Claim 45. (currently amended) The self-supported fibrin material of claim 37, wherein the stretched portion has a shape selected from the group consisting of thread and tube, said stretched portion having an outer diameter of less than 10 mm.

Claim 46. (currently amended) The self-supported fibrin material of claim 37, wherein the stretched portion has a shape selected from the group consisting of thread and tube, said stretched portion having an outer diameter of less than 3 mm.

Claim 47. (currently amended) The self-supported fibrin material of claim 37, wherein the stretched portion has a shape selected from the group consisting of thread and tube, said stretched portion having an outer diameter of between 100 μm and 2500 μm .

Claim 48. (currently amended) The self-supported fibrin material of claim 37, wherein the stretched portion has a shape of a tube with a central channel substantially parallel to the stretching direction, said central channel having a cross-section perpendicular to the stretched direction with a diameter of less than 15 mm.

Claim 49. (currently amended) The self-supported fibrin material of claim 37, wherein the stretched portion has a shape of a tube with a central channel substantially parallel to the stretching direction, said central channel having a cross-section perpendicular to the stretched direction with a diameter of less than 10 mm.

Claim 50. (currently amended) The self-supported fibrin material of claim 37, wherein the stretched portion has a shape of a tube with a central channel substantially parallel to the stretching direction, said central channel having a cross-section perpendicular to the stretched direction with a diameter of less than 5 mm.

Claim 51. (currently amended) The self-supported fibrin material of claim 37, wherein the stretched portion has a shape of a tube with a central channel substantially parallel to the

- 4 -

stretching direction, said central channel having a cross-section perpendicular to the stretched direction with a diameter between 100 µm and 2500 µm.

Claim 52. (currently amended) The self-supported fibrin material of claim 48, wherein said tube has a wall thickness between 0.1 mm and 5 mm.

Claim 53. (currently amended) The self-supported fibrin material of claim 48, wherein said tube has a wall thickness between 0.25 mm and 2.5 mm.

Claim 54. (currently amended) The self-supported fibrin material of claim 48, wherein said tube has a wall thickness between 0.5 mm and 2 mm.

Claim 55. (currently amended) The self-supported fibrin material of claim 37, wherein the amount of fibrin in the material is more than 50%.

Claim 56. (currently amended) The self-supported fibrin material of claim 37, wherein the elongated structure contains fibrin that is at least partially cross-linked.

Claim 57. (currently amended) A process for the preparation of a self-supported fibrin material, comprising the steps of:

providing a first component of a fibrinogen containing material;

providing a second component of a substance having a capability to convert fibrinogen into fibrin;

forming a fibrinogen containing material by mixing the first component and the second component; and

subjecting the self-supported fibrin containing material to stretching ~~in a longitudinal direction to obtain an elongated fibrin material along a longitudinal axis of the self-supported fibrin containing material.~~

Claim 58. (original) A process according to claim 57 wherein the first component is selected from the group consisting of ~~fibrin~~, fibrinogen, chondroitin-4 sulfate, dermatan sulfate, keratan sulfate, hyaluronic acid, chitosan, chitin, alginate, laminin, elastin, fibronectin, collagen, organic polymer, peptide, derivatives thereof, and mixtures thereof.

- 5 -

Claim 59. (currently amended) A process according to claim 57 wherein the stretching is sufficient to extend the length of the self-supported fibrin containing material at least 5%.

Claim 60. (currently amended) A process according to claim 57 wherein the stretching is sufficient to extend the length of the self-supported fibrin containing material at least 10%.

Claim 61. (currently amended) A process according to claim 57 wherein the stretching is sufficient to extend the length of the self-supported fibrin containing material at least 25%.

Claim 62. (original) A process according to claim 57, further comprising a drying step.

Claim 63. (currently amended) A process according to claim 57, wherein at least part of the self-supported fibrin containing material is stretched by mechanical or physical treatment.

B1 Claim 64. (original) A process according to claim 63, wherein the mechanical treatment is one of a compression or an extrusion and the physical treatment is one of an energy treatment or freeze-drying.

Claim 65. (original) A process according to claim 57, wherein the self-supported fibrin containing material is prepared in a mold or in dies, said material being thereafter stretched by a mechanical or physical treatment in said mold or dies.

Claim 66. (original) A process according to claim 57, wherein the self-supported fibrin containing material is at least partially stretched in a solution containing a cross-linking agent.

Claim 67. (original) A process according to claim 57, wherein the self-supported fibrin containing material is mechanically or physically treated in dies or in a mold so as to obtain an article having a shape selected from the group consisting of thread, tube, hollow profile, film, fleece, sponge and membrane.

Claim 68. (original) A process according to claim 57, wherein the self-supported fibrin containing material contains free water, and in which at least part of the free water is removed before the mechanical or physical treatment step.

- 6 -

Claim 69. (original) A process according to claim 57, wherein the fibrinogen containing material contains at least a further compound selected from the group consisting of fibrin, chondroitin-4 sulfate, dermatan sulfate, keratan sulfate, hyaluronic acid, chitosan, chitin, alginate, laminin, elastin, fibronectin, collagen, organic polymer, peptide, derivatives thereof, and mixtures thereof.

Claim 70. (original) A process according to claim 57, wherein the self-supported fibrin containing material is prepared from a fibrinogen-containing material as the first component and a solution containing less than 10 IU/ml thrombin as the second component.

Claim 71. (original) A process according to claim 57, wherein the self-supported fibrin containing material is prepared from a fibrinogen-containing material as the first component and a solution containing less than 1 IU/ml thrombin as the second component.

Claim 72. (original) A process according to claim 57, wherein the self-supported fibrin containing material is prepared from solution having a fibrinogen content of at least 3 mg/ml.

Claim 73. (original) A process according to claim 57, wherein the self-supported fibrin containing material is prepared from solution having a fibrinogen content of at least 5 mg/ml.

Claim 74. (original) A process according to claim 57, wherein the self-supported fibrin containing material is prepared from solution having a fibrinogen content of at least 10 mg/ml.

Claim 75. (original) A process according to claim 57, wherein the self-supported fibrin containing material is prepared from a fibrinogen-containing solution containing a calcium complexing agent.

Claim 76. (original) A process according to claim 57, wherein the material from which the structure is made further contains at least an additive selected from the group consisting of protein, genetic material, anticoagulant, inorganic compound, growth factor, cells, anti-inflammatory compound, compound reducing graft rejection, cell growth inhibitor, antibiotic, antiseptic, analgesic, antineoplastic, chemotherapeutic, polypeptide, protease inhibitor,

- 7 -

vitamin, cytokine, cytotoxin, interferon, hormone, antibody, antimicrobial agent, agent for improving the biocompatibility, derivatives thereof, and mixtures thereof.

Claim 77. (original) A process according to claim 57, wherein the self-supported fibrin containing material is submitted to lyophilization after stretching.

Claim 78. (currently amended) An self-supported fibrin article made at least partly from fibrinogen comprising an elongated structure selected from the group consisting of fibrin containing thread, tube, hollow profile, film, fleece, sponge and membrane, wherein the self-supported fibrin article is stretched along a longitudinal axis.

Claim 79. (original) A thread, tube, hollow profile, film, fleece, sponge or membrane obtainable by a process according to claim 57.

Claim 80. (original) The thread, tube, hollow profile, film, fleece, sponge or membrane of claim 79 wherein the stretched portion is stretched in at least two directions substantially perpendicular to one another.

Claim 81. (original) The thread, tube, hollow profile, film, fleece, sponge or membrane of claim 79, which is rolled around an axis substantially perpendicular to the longitudinal direction.

Claim 82. (currently amended) A process for the manufacture of a shaped article made at least partly of a self-supported fibrin of claim 37, comprising the steps of:

providing an aqueous fibrinogen-containing solution as a first component;

providing thrombin in an inactive form as a second component; and

providing an amount of water in the solution such that after mixing the first and second component to form a gel, substantially no water can be removed when submitting the gel to a centrifugation of 1,000 rounds per minute.

Claim 83. (original) The process of claim 82, wherein the thrombin present in the solution is at least partly activated when submitting the solution to a mechanical or physical treatment, advantageously in a mold or in dies.

- 8 -

Claim 84. (currently amended) A process for making a shaped article made at least partly of a self-supported fibrin of claim 37, comprising the steps of:

mixing substances containing particles selected from the group consisting of fibrinogen, inactive thrombin, derivatives thereof and mixtures thereof;

subjecting the mixture to a mechanical or physical treatment, in a mold or in dies; wetting or moistening the particles; and

partially activating thrombin to obtain a shaped article.